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## REMARKS

Reconsideration of the rejection of claims 1, 3, 5-10, 12, and 14-18 under 35 USC §102(e) in view of U.S. Patent Publication No. 2003/0034959 (Davis) is again respectfully requested on the basis that the Davis publication does not disclose or suggest all of the elements of the claimed invention, as claimed.

Claim 1 has been amended to emphasize the integrated nature of the claimed optical mouse. In addition, should the Examiner believe that the integrated nature of the invention could be made even clearer, an interview is requested before the issuance of a final Office Action so that further amendments can be discussed.

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The rejection is based on the Examiner's conclusion that schematic Fig. 4 of the Davis publication discloses an LED 34 and LED driver 80 that are "embedded" within the sensor chip 16, even though the perspective and side views of the structure of LED 34 and sensor chip 16 in Figs. 1-3 show that LED 34 is not even close to being embedded in the sensor chip 16, and in fact is separated therefrom. This is especially clear from Fig. 3 of the Davis publication, reproduced at right, which shows the sensor chip 16 on an optical element

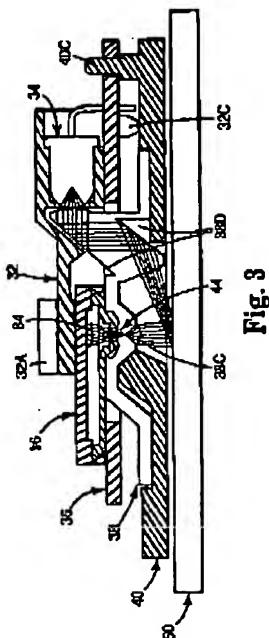


Fig. 3

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38 that includes a prism section 38D extending between the LED 34 and the sensor chip 16. In other words, as shown in LED 34 is spaced from the sensor chip 16.

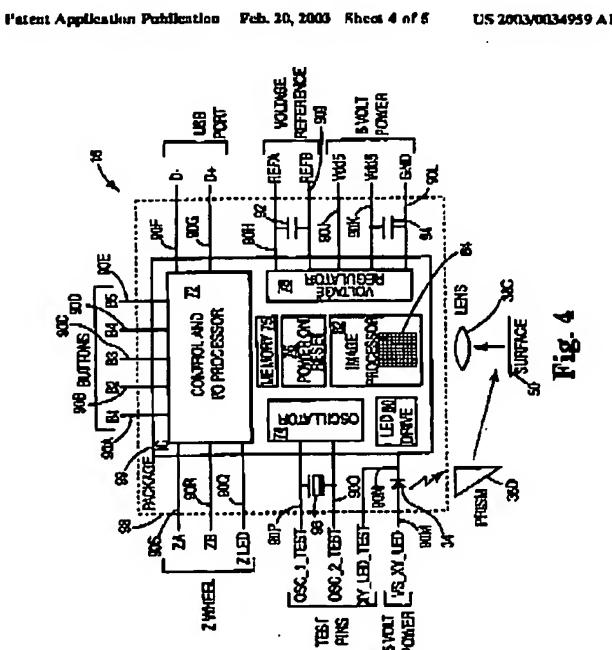
According to the Examiner, the Applicant's argument concerning Fig. 4 was unpersuasive because Figs. 3 and 4 show a "*distinct embodiment*" of the invention that is alternative to the embodiment of Figs. 1 and 2. The Examiner is incorrect. The language "*Fig. 3 is a side cross-sectional view of the internal mouse assembly illustrated in FIG. 2 after assembly, viewed along section lines 3-3 in FIG. 2*" does not mean that Fig. 3 shows a distinct embodiment. To the contrary, it means that Fig. 3 shows the same embodiment as Fig. 2. **The fact that Fig. 3 is a cross-sectional view of Fig. 2 actually precludes an interpretation of Fig. 3 as being directed to a different structure than Fig. 2.** The Examiner is urged to consult with an Examiner familiar with standard drawing conventions for confirmation.

Furthermore, even if Fig. 3 did show an embodiment different than that of Figs. 1 and 2 (and there is nothing to indicate that it does), Fig. 3 still shows the LED 34 as being separated from the sensor chip 16 (see the above copy of Fig. 3). Instead of the claimed LED positioned *within* the sensor chip, the Davis patent shows an LED 34 received in a space inside an optical mouse 10 and electrically connected to PCB 36 via leads. Clip 32 of Davis includes two pegs 32C which are inserted into holes 36B and 36C of PCB 36, and a lens assembly 38 is set underneath the PCB 36. The lens assembly 38 includes a base 38A that has a lens holder 38B set up on top of the base 38A. Lens assembly 38 also includes a lens 38C that is held in place by lens holder 38B, and a prism 38D that is set aside of lens holder 38B and configured to be positioned within a recess 40A of base plate 40, the PCB 36 being inserted over the lens assembly 38 onto alignment post 40C, which in turn extends through hole 36D to retain PCB 36 in place. **LED 34 of Davis cannot reasonably be interpreted as being "mounted inside the space," the space being "defined inside the body," the body "having at least one lead," as claimed, since the body can only correspond to sensor chip body 16 of Davis, and since LED 34 is not within the body."**

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The point of the invention is that the sensor chip, control element, LED, and optical element can all be integrated into a single chip that can easily be mounted in a mouse, thereby reducing assembly costs. The sensor chip/control element, LED, and optical element of Davis are all separate elements, as is clear from Figs. 1, 2, and 3 of the Davis publication. In order to assemble the structure disclosed in the Davis patent, the LED 34 and optical sensor chip have to be set separately on the PCB 36. To accomplish this, the PCB of Davis needs a hole 36A for positioning the photo detector array 84 located in the bottom surface of the optical sensor chip 16, and holes 36B and 36C for positioning the lens assembly 38 including the lens holder 38A, lens 38C, and prism 38D, the base plate 40 requiring a recess 40A, hole 40B, and alignment post 40C, the whole assembly being held together by a clip 32 with pre-positioned cavity 32B. This is significantly more complex and difficult to assemble than the claimed invention, which simply requires that the "body" be plugged into the PCB, the LED, optical element, and sensor array all being positioned by the simple act of plugging the body (via the lead and a "contact tine") into the PCB.

If the structure shown in Figs. 1-3 does not anticipate the claimed invention, then the claimed invention can only be anticipated if Fig. 4 suggests a different structure. However, Fig. 4 is a schematic diagram that suggests a particular connection of the LED, i.e., a functional relationship to the sensor chip, and not an actual structure. This is indicated by the fact that the



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description of Fig. 4 only mentions LED 34 in terms of its function, stating that “*In one form of the invention, LED drive circuit 80 strobos LED 34 once per image frame,*” whereas the description of Figs. 1-3 clearly concern structure. To the extent that Fig. 4 shows a “distinct embodiment” of the package, it is not a distinct *structural embodiment*, it is a *functional embodiment* having to do with the way the LED is connected to be strobed, and not to the placement of the LED.

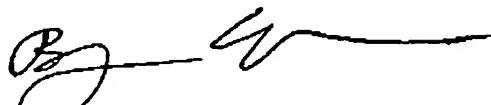
Furthermore, even if Fig. 4 is not considered to be “schematic” in nature, the lens 38C and prism 38D are clearly depicted as being outside the “package.” Claim 1 of the present application specifically recites the “optical element” as being within the space defined inside the body. Therefore, even if Fig. 4 by itself were considered to show a separate embodiment of the structure disclosed in the Davis publication, the Davis publication would not anticipate the claimed invention because the “embodiment” of Fig. 4 does not include the claimed “optical element” and “LED” within the space defined within the sensor chip body. Even under the Examiner’s unique interpretation of Fig. 4 as showing a separate structural embodiment, the Davis patent at best discloses in Figs. 1-3 an embodiment in which the sensor chip, LED, and optical element are all separate, and in Fig. 4 an embodiment in which the sensor chip and optical element are separate. In other words, even if the Applicant is wrong that Fig. 4 fails to teach an integrated LED (the only description of the placement of LED 34 being in connection with Figs. 1-3), the Davis publication would still not anticipate the claimed invention since Fig. 4 at best discloses the LED and not the optical element as being integrated with the sensor chip.

Because the Davis patent fails to disclose or suggest a body having a space in which are positioned an LED, control element, optical element, and sensor, thereby significantly simplifying assembly and improving performance and reliability, withdrawal of the rejection under 35 USC §103(a) is respectfully requested.

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Having thus overcome each of the rejections made in the Official Action, withdrawal of the rejections and expedited passage of the application to issue is requested.

Respectfully submitted,  
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